

Ionian Isles. Mr. Carr, pupae of the cheese-fly, *Piophilta casei* (Dipt.). Mr. Bunnett, the black aberration of *Coccinella hieroglyphica* (Col.) from Keston with the type.

September 23rd, 1920.—Mr. K. G. BLAIR, B.Sc., F.E.S., President, in the Chair.

An Exhibition of Lantern Slides. Mr. Tonge, the resting habit of several British Geometers. Mr. Main, seasonal forms of *Pieris napi*, stages and pupal chamber of *Timarcha laevigata* (Col.), ravages and metamorphoses of *Donacia* sp. (Col.). Mr. Bedford (Eastbourne), rare species (Lep.) captured in Sussex, local birds, rare and local orchids, abnormal growths, etc. Mr. Withycombe, *Clarysopa*, *Heimerobius*, *Syrphus*, and *Stratiomys*. Mr. Colthrup, positions of rest of butterflies and moths, and habits of birds. Mr. Grosvenor, many species and forms of the genus *Terius* from India. Mr. Bowman, a bred series of *Tricopteryx carpinata* from Oxshott, with numerous forms having well-emphasised transverse lines on the fore-wings. Mr. H. J. Turner, three species of *Eaetes* (Lep. Het.), *E. imperialis*, New York, *E. grandis*, São Paulo, and *E. sp.*? from Cordoba, Argentine. sent by Mr. Lindeman, with coloured photographs of the larvae of the two last.

October 14th, 1920.—The President in the Chair.

Mr. J. B. Farmer presented a box of British Odonata to the Society's collection. Mr. Riley, on behalf of Mr. South, for Mr. Dalton, aberrations of (1) *Agriades coridon*, between ab. *albicans* and var. *apennina*; (2) *Hibernia leucophaearia*, conspicuous wavy lines on a clear ground; (3) dark grey-brown *Banalis pinaria*. Mr. Turner, a small race of *Zygauena filipendulae* from Box Hill, with 6th spot very feebly developed, including ab. *cytisi* and other aberrations. Mr. Newman, living full-fed larva of *Ilyoicus pinastri* from Suffolk. Mr. B. S. Williams, three *Pieris rapae* showing a discal spot on the hind-wings, and a striate asymmetrical form of *Rumiccia phluca*. Mr. Johnson, banded females of *Pieris napi* from Ireland, one being yellow-suffused; confluent *Zygauena trifolii* from Folkestone, and a gynandromorph of *P. rapae*. Mr. Grosvenor, *Pieris canidia* (various forms), *P. krueperi*, and *P. rapae* from India. Mr. Mera, *Polia chi* closely approaching form *olivacea*. Mr. Blenkarn, *Carabus nitens* and other *Coleoptera* from Poole. Seasonal notes from several members.—H. J. TURNER (*Hon. Editor of Proceedings*).

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#### RESTING POSITIONS OF SOME NEMATOCEROUS DIPTERA.

BY F. W. EDWARDS, B.A., F.E.S.

All students of Diptera and of Medical Entomology are familiar with the fact that many flies, such as the malarial and non-malarial mosquitoes, the tse-tse flies, and some others, may be recognised in life at a glance by the positions in which they hold their wings and legs when in a state of rest. Systematists have made some use of these points. Meigen in many of his generic diagnoses laying great stress on

the position in which the wings are held, whether in the shape of a roof, or lying flat over the back. The subject has not, however, received the amount of attention from entomologists which it deserves. The following notes, regarding certain families of Nematocera, are not by any means exhaustive, but will serve to draw attention to the interest of the subject. It will be seen that genera, groups of genera, subfamilies or families can frequently be recognised by their resting positions, but, as might be expected, there are some exceptions to most of the rules, and even the same species may not always settle in the same position. Copulatory attitudes are not noticed here, though some very interesting notes could be collected regarding them.

#### CECIDOMYIIDAE, SCATOPSIDAE, AND SCTARIDAE.

In these families, so far as observed, the legs are always held touching the surface, the body horizontal, the wings completely overlapping and lying flat over the back. This may be regarded as the normal position for the Nematocera.

#### MYCETOPHILIDAE.

There is great diversity in this family in respect of the resting positions, but some groups adopt very characteristic attitudes.

*Ceroplatus* and *Platyura* rest with the wings overlapping, flat over the back; the hind legs, and frequently the middle ones also, raised slightly from the surface, so that the insect is often hanging by its front claws only.

*Macrocera* holds its wings flat, but divergent at an angle of about  $45^\circ$  on each side of the body; all the legs touch the surface. *Diadocidia* behaves in a similar way.

*Bolitophila*, so far as I have noticed, keeps all its feet touching the surface, and its wings overlapping. Curtis, however, states that *B. saundersi* was found resting with its hind legs raised.

*Mycomyia* holds its wings much like *Macrocera*, but not quite flat; all the legs touch the surface. *Boletina* (sometimes) and *Acnemia* adopt a similar position.

*Sciophila* (*Lasiosoma*) and *Monoclona* resemble *Mycomyia*, but the wings are much less divaricate and sometimes partially overlap.

*Erechia*, *Rhymosia*, *Allodia*, *Brachypeza*, and *Cordyla* all raise their middle legs high above the body, the tarsi being curved towards each other so that they almost meet. The wings completely overlap,

but are raised up at an angle with the abdomen (this last feature more pronounced in *Cordyla* and *Brachypeza* than in the others).

*Septonia* sometimes, if not habitually, turns its wings downward at the sides of or more or less beneath the abdomen. It will be of interest to know whether a similar habit exists in the probably allied genera *Epicrypta* and *Delopsis*.

Most of the remaining genera (e. g., *Leptomorphus*, *Apolephthisa*, *Tetragoneura*, *Leiomyia*, *Trichonta*, *Phronia*, *Mycetophila*, *Zygomyia*) exhibit no striking peculiarity, the wings being held flat and overlapping over the back, and all the legs touching the surface.

#### DITOMYIIDAE.

Both *Ditomyia* and *Symmerus* rest like *Ceroplatus*, with the hind legs slightly raised, the wings flat and overlapping over the back. In view of Keilin's account of the early stages, the assumption which might have been made that this was an indication of relationship, cannot be maintained.

#### ANISOPODIDAE (RHYPHIDAE).

There is a curious difference in the resting attitudes adopted by *Rhyphus punctatus* and *R. fenestralis*. Both hold their legs and wings in the normal position, with the abdomen somewhat curved downwards, but the former has the front part of the body raised, the tips of the wings almost or quite touching the surface, while the latter has the head a little nearer the surface than the tail. *Mycetobia* when alive resembles in shape and attitude a small *R. fenestralis*.

#### CULICIDAE.

The habit of raising and waving the hind legs is well known, as is the difference in posture between Culicines and Anophelines, but the fact is often overlooked that during hibernation both *Culex* and *Anopheles* rest with their legs and bodies close up against the surface, all the legs widely extended. Knab has recorded that the members of the tropical tribe, Sabethini, raise their hind legs to a greater extent than do other mosquitoes, even curving them forward over the head.

*Chaoborus* resembles *Anopheles* in the position of the body; *Mochlonyx* has a more *Culex*-like attitude, but in neither genus are the hind legs raised.

#### CHIRONOMIDAE.

*Chironominae*.—All the members of this subfamily (except sometimes *Metricnemus*) keep their front legs raised, but the position of the

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